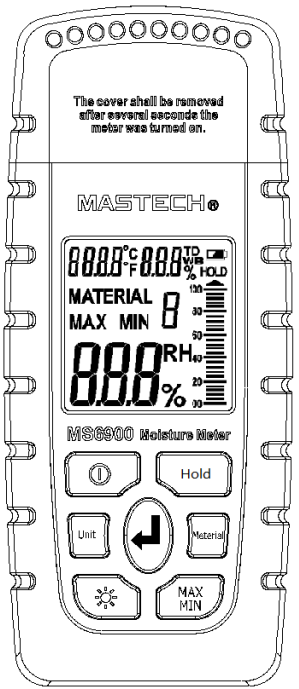
MS6900

Multi Function Moisture Meter

USER'S MANUAL



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Thank you for purchasing Mastech MS6900 Multi Function Moisture Meter. Please read the Users Manual carefully to be familiar with the Meter. For more information, please visit our website at http://www.mastech.cn

To avoid possible electric shock or personal injury:

- Use the Meter only as specified in this manual or the protection provided by the Meter might be impaired.
- Do not place the Meter near explosive gas or vapor.
- Read the Users Manual before use and follow all safety instructions.

Limited warranty and limitation of liability

This MS6900 product from Mastech will be free from defects in material and workmanship for one year from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Mastech's behalf. To obtain service during the warranty period, contact your nearest Mastech authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.

Out of Box

Check the Meter and accessories thoroughly before using the Meter. Contact your local distributor if the Meter or any components are damaged or malfunction.

Accessories

- One Users Manual
- Two AAA Battery

Safety Information

⚠ WARNING

TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, PRODUCT DAMAGE OR PERSONAL INJURY, PLEASE FOLLOW THE SAFETY INSTRUCTIONS DESCRIBED IN THE USER MANUAL. READ THE USER MANUALS BEFORE USING THE METER.

⚠ WARNING

DO NOT PLACE THE METER IN ANY ENVIRONMENT OF HIGH PRES DUST, EXPLOSIVE GAS OR VAPOR.TO ENSURE SAFE OPERATION FOLLOW THESE INSTRUCTIONS

Safety Symbols

⚠	Important safety message

CE	Conforms to relevant European Union directives

Warning Symbols

⚠ **Warning**	Risk of danger. Important information. See Users Manual
⚠ **Caution**	Statement identifies conditions and actions that fail to follow the instructions could result false reading, damage the Meter or the equipment under test.
⚠ **Hint**	Suggestions or hints.

Using the Meter

⚠ WARNING

TO AVOID ELECTRICAL SHOCK AND INJURY, COVER THE METER WITH PROTECTIVE COVER WHEN NOT IN USE.

⚠ Caution

1：Operate the Meter between -10～50℃（14～122° F）。

2：Avoid shaking, dropping or taking any kind of impacts when using or transporting the Meter.

3：To avoid possible electric shock or personal injury, repairs or servicing not covered in this manual should be performed only by qualified personnel.

4：Check the terminals every time before operate the Meter. Do not operate the Meter if the terminals are damaged or one or more functions are not working properly.

5：Avoid exploring the Meter to direct sunlight to ensure and extend the life of the Meter.

6：Do not place the Meter in strong magnetic field, it may cause false readings.

7：Use only the batteries indicated in the Technical Spec.

8：Avoid exploring the battery to humidity. Replace the batteries as soon as the low battery indicator appears.

⚠ Hints

1：Sensitivity of the Meter toward temperature and humidity will be lower over time. Please calibrate the Meter periodically for best performance

2：Please keep the original packing for future shipping purpose (ex. Calibration)

1 . Introduction

1.1 Product Description

MS6900 is a material moisture, temperature, humidity all-in-one multi functions Meter. The Meter is ideal for measuring moisture of wood and concrete buildings.

1.2 MS6900 Multi Function Moisture Meter Features:

- Provide temperature, humidity and moisture measuring.
- Measure seven kinds of materials through manual mode.
- Maximum and Minimum Moisture readings.
- Display Hold.
- LCD Display, moisture bar display.
- Units switch.
- Backlight display.
- Auto off (when not in use for 10 minutes)
- Sturdy construction, easy to carry.

1.3 Components

1.3.1 Figures and Components

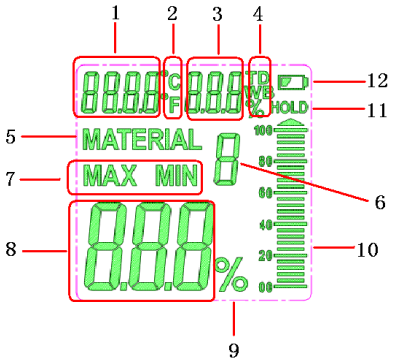
① Terminals Protective Cover.
② LCD Display
③ On/Off Button: Press once to turn the Meter on, press for 1 sec to turn it off.
④ Temperature/Moisture Switch：
Switch between Temp: ℃/℉ and
Moisture：%/WB/TD；
The Meter exit switching mode if “Enter” button is not pressed in 8 seconds.

⑤ Backlight Button
⑥ Display Hold Button
⑦ Switch between testing materials
⑧ Maximum/Minimum Display Button
⑨Enter Button.

MS6900 Diagram

1.3.2 LCD Display Panel

① Current Temperature
② Temperature Unit
③ Current Moisture
④ Moisture Unit
⑤ Material
⑥ Material Label
⑦ Maximum/Minimum
⑧ Moisture Readings Display
⑨ Moisture Unit
⑩ Simulated Moisture Bar
⑪ Measure/Hold
⑫ Low Battery Indicator



MS6900 LCD Display

2 .Using the Meter

2.1 Power On/Off

- When the Meter is off, press “On/Off” button to turn on the Meter. The Meter will display as in Figure 2-1-1 and shows the current temperature humidity.
- When the Meter is on, press “On/Off” button to turn off the Meter. The Meter will automatically turn off if not in operation for 10 minutes.

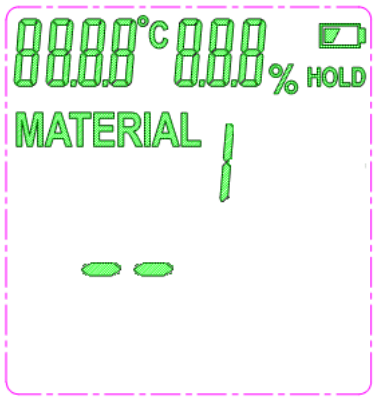


Figure 2-1-1

2.2 Choosing Materials

Press “Material” button to choose from materials 1 to 7 and repeat. Choose proper number correspondingly as follow:

1: Beech, Spruce, Larch, Birch, Cherry, Walnut
2: Oak, Cedar, Maple, Ash Tree, Citigroup, Tamarisk
3: Smoothing Cement, Concrete
4: Anhydrite Screed

5: Cement Mortar
6: Lime Mortar, Plaster
7: Brick

2.3 Measure/Hold

- To hold the readings, press “Hold” button till the Hold is displayed on the top right corner.
- To cancel hold of the readings, press “Hold” button again till the Hold indicator disappear, the Meter will now show current readings.

2.4 Maximum/Minimum

- To show the maximum of the moisture readings, press “MAX/MIN” button till “MAX” is displayed.
- To show the minimum of the moisture readings, press “MAX/MIN” button till “MIN” is displayed.
- To show current moisture readings, press “MAX/MIN” button till the LCD does not display “MAX” nor “MIN”
- In “MAX” or “MIN” mode, if the “MAX/MIN” button is not pressed for 5 minutes, the Meter will switch back to current moisture readings.

2.5 Switch between Functions

- Press “Unit” button to switch between functions “℃”、“℉”、“**%**”、“**WB**” and “**TD**” (Symbols flash). Press “Enter” button to confirm selection. If no selection is confirmed in 8 seconds, the Meter will exit switching mode.

2.6 Backlight Display

- Press the backlight button (⑤) to turn on the backlight, press again to turn it off. The backlight will turn off if itself when turn of the Meter.

2.7 Others

- If the LCD display is dim or not display clearly, replace a new battery.
- To ensure accurate readings, measure multi locations with the Meter.
- To measure woods, stick the Probe in the wood, wait for at least 5 seconds to obtain stable readings.
- Keep the Meter away from any heat source or possible temperature disturbance (ex. Hand).

3 Technical Specification

3.1 Measurement Specification：

- Electric Conductivity (Resistance Sensor) Range: 0.0～60.0%;
- Temperature (Temperature Sensor) Range: -10.0～50.0℃ (14.0～122.0℉）

- Units：
  Material Moisture: %
  Environment Humidity: %,WB,TD
  Environment Temperature: ℃, ℉

- Materials Moisture Range:

Material 1: Beech, Spruce, Larch, Birch, Cherry, Walnut	8.5~60.0%
Material 2: Oak, Cedar, Maple, Ash Tree, Citigroup, Tamarisk	6.8~53.4%
Material 3: Smoothing Cement, Concrete	0.9~24.5%
Material 4: Anhydrite Screed	0.0~12.2%
Material 5: Cement Mortar	0.7~9.2%
Material 6: Lime Mortar, Plaster	0.5~11.1%
Material 7: Brick	0.0~17.8%

- Resolution：
  Material Moisture：0.1%
  Temperature ： 0.1℃,0.1℉
  Humidity： 0.1%

- Accuracy (perform under temperature of 25℃)：
  Conductivity：±2%
  Temperature：±2℃（-10℃～+50℃）
  Humidity：±5%(10…90%)

- Sample Interval：
  Material Moisture Sample Speed：240ms ; LCD refresh time: 1.5s
  Temperature Sample Speed：240ms ; LCD refresh time 1.5s
  Humidity Sample Speed：240ms ; LCD refresh time 3.5s

- Operation Temperature： -10～50℃（14～122℉）

- Storage Temperature： -40～60℃（-40…140℉）

- Batteries： 2×1.5V AAa

Life of Battries： 200 hrs (Backlight off)

- Size： 130×55×29mm
- Weight：140g(with batteries and protective cover)

4 、Maintenance and Repair

4.1 Repair

Please follow the steps closely if the Meter is not functioning properly:

1. Check the batteries, replace new batteries if low battery indicator " " appears.
2. Follow Users Manual to confirm every procedure.
3. Before sending back the Meter for repair, include a description of the problems encountered. Remove the batteries and pack the Meter well to avoid possible damage by the delivery, Mastech does not cover the damage due to delivery.
4. Repairs or servicing not covered in this manual should be performed only by the authorized service center or qualified personnel.

4.2 Replace Batteries

Follow the steps to replace batteries:

1. Turn off the Meter.
2. Loose the battery compartment door screw, and remove the door from the case bottom.
3. Remove the batteries and replace the batteries with new batteries.
4. Reattach the battery compartment door to the case bottom and tighten the screw.

4.3 Calibration

To ensure the accuracy of the Meter, Scheduled calibration is recommended and should be performed only by qualified personnel. Calibrate the Meter annually is recommend. Calibration frequency can be higher or lower to every three years depend of the frequency of the usage.

5 Contact Mestech

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